



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

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D350-636-023
Job Sheet 188943



Part No: D350-636-023

Job Qty: 1 ea

Part Name: AS350/355 - Skidtube - Standard w/ Heavy-Duty Wearplates - LH



Part Weight: 0 lbs

Status: New

Priority: Medium

Job Created: 1/16/19

Job Tracking No:

Due Date: 2/15/19

Created By: Jesse White

Type: Stock

Description:

Note: D4168-051 REV.C, IIN-D350-636 REV.K IPP REV.A 18.11.29 NEW ISSUE DD VERF:JFS

Ship Via:

Bill of Materials



Dart Aerospace Ltd.
1270 Aberdeen Street
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CANADA
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Email: sales@dartaero.com
www.dartaerospace.com

Container No: S147126



Part: D350-636-023

Job No: 188943

Serial No/Batch: S147126

Revision: C/K

Inspector:

Exp Date:

Instructions: TC STC SH99-7 Issue 2, FAA STC SR00646SI

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup Hrs	Run Hrs	Workcenter / Supplier	Lead Time	
90	Start up Operation	1 Ea		2/15/19	0.00	0.00	Start Up Skidtubes-1		39
110	Skidtubes	1 pcs		2/15/19	0.00	5.25	Skidtubes-1		J. DAS BE
120	QC	1 pcs		2/15/19	0.00	0.00	QC10		38 DAS
130	QC	1 pcs		2/15/19	0.00	0.00	QC5		9-89 38
140	HandFinish	1 pcs		2/15/19	0.00	0.99	HandFinish1		D.R. 19/01/28
150	QC	1 pcs		2/15/19	0.00	0.00	QC7-2		BE
160	Skidtubes	1 pcs		2/15/19	0.00	5.25	Skidtubes-1		J. DAS BE
170	QC	1 pcs		2/15/19	0.00	0.00	QC10		D 19-03-01
180	QC	1 pcs		2/15/19	0.00	0.00	QC5		D 19-03-01
190	HandFinish	1 pcs		2/15/19	0.00	0.99	HandFinish2		DR 19/03/04
200	SprayPaint	1 pcs		2/15/19	0.00	0.91	Spray Paint		19-3-5
205	Outsource	1 pcs		2/15/19			ATE003-VC	5	NR
210	QC	1 pcs		2/15/19	0.00	0.00	QC14		M 19-3-7
230	HandFinish	1 pcs		2/15/19	0.00	0.99	HandFinish4		M 19-3 DAS
240	QC	1 pcs		2/15/19	0.00	0.00	QC5		MAR 15 2019 68
250	Packaging	1 pcs		2/15/19	0.00	0.00	Packaging1-3		69-89 APR 02 2019
260	QC	1 pcs		2/15/19	0.00	0.00	QC4		64-89 APR 02 2019
270	Packaging	1 pcs		2/15/19	0.00	0.00	Packaging3-1		46-89 APR 02 2019
275	DC	1 pcs		2/15/19	0.00	0.00	DC		9-89 APR 02 2019
280	QC21-FG	1 Ea		2/15/19	0.00	0.00	QC21		9-89 APR 02 2019

Part Op 110 - 1- Pick D2600-3 Bent 2- Deburr FWD and AFT ends, remove bending marks. Scribe batch# inside AFT end per dwg
 Descriptions: D4168-1 3- Drill pilot holes for blade fitting bolt holes using DT8983. Start with 3/16", then open to 0.500" using center drill then ream holes using 0.500" reamer. PIN first side. Repeat process on second side. ***ENSURE PROPER POSITIONING FWD BEND MUST BE FACING UP WHEN DRILLING FIRST SIDE*** Drill pilot holes as per Dwg D4168 sheet 4 (D4168-5 details). Drill using drill Jig DT8150 & DT8863A for first side only DT8863B for second side 4- Locate DT8330 off of blade fitting bolt holes and drill pilot holes for blade fitting, section DE-DE. Open to 0.500" using hole saw. VERIFY AND RECORD FWD BEND ANGLE. 5- Drill tow ring hole using DT9616 detail "DA" 6- Drill most FWD wearplate hole using DT9678 locating off of 66.54" hole. 7- Open up holes of Detail DA to 0.297" (total of 2 holes per side) and .201" (total of 1 hole per side using DT9616) 8- Weld D2744 Cap as per Dwg D4168 and QSI 004. Fill grooves in bend left from bending as per QSI 004 A/R Aluminum Rod batch: 138989 9- Grind welds flush as per Dwg D4168
 160 - 1-Open up holes using hole saw of Detail DB and ground handling section EN-EN to 0.625" (total of 8 holes per side) as per dwg D4168. Open wearplate holes to size as per dwg (4 holes per sides), section EP-EP 4-Chamfer holes of Detail DB, ground handling section AL-AL per dwg D4168 (welding instructions on sheet 8) 5-Deburr and blow out all chips from inside of tube 6- Prepare tube for welding, remove alodine as required. 7-Bond web D2739 in place as per QSI 015, let cure for 12hrs. A/R Sikaflex-291 batch: M138984 exp. date: 09/07/19 ***ATTN: USE I-BEAM LOCATION AID (BLADE FITTING)*** 8- Weld spacers D2743 as per dwg D4168 and D4170-1 & QSI004 (welding instructions on sheet) A/R Aluminum Rod batch: 138989 10-Grind welds flush as per Dwg D4168 11-Spot face ground handling holes section (total of 4 places per side) as per dwg D4168, section EN-EN 12- C'bore section CG-CG. ADJUST TOOLING AS REQUIRED. VERF BY: _____ 13- Deburr holes, ensure tube is free of all scratches before sending to paint. *****

180 - ***VERIFY C'BOARD IS GOOD***

190 - Re-alodine tube as per QSI 005 section 4.1.2.1 do not acid etch.

200 - 1- PRIME AS PER DWG AND QSI 005 4.2.1.3.3 PRIMER PRC DESOTO 515X349 BATCH: 5152590

2- PAINT WHITE AS PER DWG AND QSI 005 4.2 PAINT BATCH: 5146086

210 - Inspect for foreign object per QSI 024

230 - 1- Install inserts as per Dwg D4168 2-Inspect for Foreign Objects 3-Install blade fitting D3488-3, wearshoes and ground handling hardware as per dwg D4168 SIKA FLEX 241 BATCH: 518985 EXP DATE: 19-7 5- Coat all exposed fasteners with "LPS Procyon" batch: M138984

250 - If making a D350-636-215 pick kit will only requires: 1 X AN3C37A 1 X AN3C34A 1 X AN3C42A

260 - *****ensure antiseize is on AN8C21A bolts*****

270 - Identify and pack for shipping as per PPPD350-636-023 Location :FG071

275 - record fwd angle: 89.9 Photocopy blue file and type labels per PPP D350-636-023 CHG 001

DAS
15
9-89

008958

Job BOM

008523

Part / Item	Component Name	Quantity	Operation	Container
D2600-3-BENT-LH	Extrusion Bent LH	1 pcs (1 ea)	90-Start up Operation	5129373
D2744	Cap	1 pcs (1 ea)	90-Start up Operation	5060499
D2739	350 I-Beam	1 pcs (1 ea)	160-Skidtubes	5140949
D2743	Crossbolt Spacer	8 pcs (8 ea)	160-Skidtubes	5156521x1 5133720x7
ALS4-1032-225	Rivnut	4 Ea (4 ea)	230-HandFinish	5058139
AN3C34A	Bolt	1 Ea (1 ea)	230-HandFinish	5117121
AN3C36A	Bolt	4 Ea (4 ea)	230-HandFinish	511136658-1
AN3C6A	Bolt	4 Ea (4 ea)	230-HandFinish	5142453
AN6C44A	Bolt	4 Ea (4 ea)	230-HandFinish	5123455
AN8C35A	Bolt	1 Ea (1 ea)	230-HandFinish	5142143
D2745	Bushing	8 Ea (8 ea)	230-HandFinish	5137492
D3488-3	Blade Fitting, LH	1 pcs (1 ea)	230-HandFinish	5148053
D3631-1	Washer	8 pcs (8 ea)	230-HandFinish	5058407
D3873-1	Bushing	7 pcs (7 ea)	230-HandFinish	5154066
D4154-041	Wearplate Assembly	1 Ea (1 ea)	230-HandFinish	5148971
D4170-1	Bushing	4 pcs (4 ea)	230-HandFinish	5146351x2 5137508x2
D4171-1	Bushing	1 pcs (1 ea)	230-HandFinish	5142731
MS21043-3	Nut	5 Ea (5 ea)	230-HandFinish	5099569
MS21043-6	Nut	4 Ea (4 ea)	230-HandFinish	5149143
MS21083C8	Nut	1 Ea (1 ea)	230-HandFinish	8104046
NAS1149C0332R	Washer	4 Ea (4 ea)	230-HandFinish	5146515
NAS1149C0363R	Washer	9 Ea (9 ea)	230-HandFinish	5135100
NAS1149C0832R	Washer	1 Ea (1 ea)	230-HandFinish	5076012-2
NAS1515H3L	Washer	4 Ea (4 ea)	230-HandFinish	5083559
AN3C37A	Bolt	1 Ea (1 ea)	250-Packaging	5137856
AN8C21A	Bolt	2 Ea (2 ea)	250-Packaging	5093793
D2741	Replacement Blade	1 pcs (1 ea)	250-Packaging	5129315
MS21083C8	Nut	2 Ea (2 ea)	250-Packaging	5152549
NAS1149D0863J	Washer	2 Ea (2 ea)	250-Packaging	5133789

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
90-Start up Operation	D2600-3-BENT-LH	1	7	0
	D2744	1	2	0
	D2739	1	6	0
160-Skidtubes	D2743	8	32	0
	ALS4-1032-225	4	759	0
230-HandFinish	AN3C34A	1	12	0
	AN3C36A	4	392	0
	AN3C6A	4	184	0
	AN6C44A	4	65	0
	AN8C35A	1	35	0
	D2745	8	130	0
	D3488-3	1	2	0
	D3631-1	8	329	0
	D3873-1	7	50	0
	D4154-041	1	0	0
	D4170-1	4	46	0
	D4171-1	1	16	0
	MS21043-3	5	723	0
	MS21043-6	4	91	0
	MS21083C8	1	59	0
	NAS1149C0332R	4	3,345	0
	NAS1149C0363R	9	685	0
	NAS1149C0832R	1	356	0
	NAS1515H3L	4	414	0
250-Packaging	AN3C37A	1	53	0
	AN8C21A	2	31	0
	D2741	1	52	0
	MS21083C8	2	59	0
	NAS1149D0863J	2	131	0

Part Specifications
Specifications could not be found.

Plex 1/23/19 8:50 AM Dart.lajeunesse.marie

QTY -041	QTY -042	QTY -043	QTY -044	QTY -051	QTY -052	P/N	DESCRIPTION
X						D4168-041	350 SKIDTUBE ASSEMBLY, LH
	X					D4168-042	350 SKIDTUBE ASSEMBLY, RH
		X				D4168-043	350 SKIDTUBE ASSEMBLY, LH
			X			D4168-044	350 SKIDTUBE ASSEMBLY, RH
				X		D4168-051	350 SKIDTUBE ASSEMBLY, LH
					X	D4168-052	350 SKIDTUBE ASSEMBLY, RH
1	1	1	1	1	1	D2739	WEB
8	8	8	8	8	8	D2743	CROSS BOLT SPACER
1	1	1	1	1	1	D2744	CAP
8	8	8	8	8	8	D2745	BUSHING
1		1		1		D3488-3	BLADE FITTING, LH
	1		1		1	D3488-4	BLADE FITTING, RH
4	4	4	4			D3490-1	CROSS BOLT SPACER
4	4					D3490-3	CROSS BOLT SPACER
		4	4			D3490-5	CROSS BOLT SPACER
8	8	8	8			D3492-041	PLUG ASSEMBLY
8	8					D3492-043	PLUG ASSEMBLY
		8	8			D3492-045	PLUG ASSEMBLY
8	8	8	8	8	8	D3631-1	WASHER
7	7	7	7	7	7	D3873-1	BUSHING
1	1	1	1	1	1	D4154-041	WEARPLATE ASSEMBLY
1						D4168-1	SKIDTUBE WELDMENT, LH
	1					D4168-2	SKIDTUBE WELDMENT, RH
		1				D4168-3	SKIDTUBE WELDMENT, LH
			1			D4168-4	SKIDTUBE WELDMENT, RH
				1		D4168-5	SKIDTUBE WELDMENT, LH
					1	D4168-6	SKIDTUBE WELDMENT, RH
4	4	4	4	4	4	D4170-1	SPACER
1	1	1	1	1	1	D4171-1	BUSHING
4	4	4	4	4	4	ALS4-1032-225	INSERT
1	1	1	1	1	1	AN3C34A	BOLT
4	4	4	4	4	4	AN3C36A	BOLT
4	4	4	4	4	4	AN3C6A	BOLT
4	4	4	4	4	4	AN8C44A	BOLT
1	1	1	1	1	1	AN8C35A	BOLT
5	5	5	5	5	5	MS21043-3	NUT
4	4	4	4	4	4	MS21043-6	NUT
1	1	1	1	1	1	MS21083C8	NUT
4	4	4	4	4	4	NAS1149C0332R	WASHER
9	9	9	9	9	9	NAS1149C0363R	WASHER
1	1	1	1	1	1	NAS1149C0832R	WASHER
4	4	4	4	4	4	NAS1515H3L	WASHER

NOTES:

- 1) MATERIAL: MAKE D4168-1/-2/-3/-4/-5/-6 FROM D2600-3 EXTRUSION (INITIAL LENGTH = 120.0).
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1 PRIOR TO INSTALLING D2739 WEB.
STANDARD: PRIME (REF. 4.2.1.3.3) AND PAINT WHITE PER DART QSI 005 4.3
OPTIONAL: POWDER COAT WHITE (REF. 4.3.5.1) PER DART QSI 005 4.3
BLACK ANTI-SKID PAINT AS INDICATED TO 1.0 ABOVE SKIDTUBE CENTER-LINE PER DART 005 4.4 (OPTIONAL).
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: D4168-041/-042/-043/-044 = 32.3 lbs
D4168-051/-052 = 31.9 lbs
- 8) WELD PER DART QSI 004
- 9) FINAL CONFIGURATION SHOULD HAVE THE FOLLOWING MINIMUM MECHANICAL PROPERTIES:
MINIMUM YIELD TENSILE STRENGTH = 35 KSI
MINIMUM ULTIMATE TENSILE STRENGTH = 38 KSI
- 10) COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF FINISH WITH MEK DEGREASER.
- 11) SPACER AND PLUG INSTALLED SAME AS SECTION AJ-AJ EXCEPT HORIZONTAL
- 12) SPACER AND PLUG INSTALLED SAME AS SECTION AP-AP EXCEPT HORIZONTAL

C	ADDED -051/-052 (ZN D5-1 SHEETS 4, 15-18); ADDED D4168-5/-6 (ZN B5-1, SHEETS 9, 10); D3488-3/-4 REPLACES D3488-041/-042 (ZN C5-1, D2-11, D2-12, D2-13, D2-14); ADDED NOTES 13, 14 (ZN C4-1); NAS1149C0363R WAS AN960C10 (ZN A5-1, C8-11, C7-11, D8-11, C8-12, C7-12, D8-12, C8-13, C7-13, D8-13, C8-14, C7-14, D8-14); NAS1149C0332R WAS AN960C10L (ZN B1-11, B1-12, B1-13, B1-14); NAS1149C0832R WAS AN960C816L (ZN C1-11, C1-12, C1-13, C1-14)	ZF	18.03.01
B	ADD VIEW TO CONTROL FWD BEND ORIENTATION (ZN D-1-4/-5/-6/-7); UPDATED FINISH OPTIONS. REASON: PAR13-276 AND NCR13-2757	MB	13.07.11
A	NEW ISSUE	SC	10.08.09
REV.	DESCRIPTION	BY	DATE
DESIGN	SC		
DRAWN	ZF		
CHECKED	MW		
MFG. APPR.	DD		
APPROVED	NO		
DE APPR.	DS		
DATE	18.03.01		

DART AEROSPACE USA, INC.
EUGENE, OR

DRAWING NO. **D4168** REV. C
SHEET 1 OF 18
TITLE **350 SKIDTUBE ASSEMBLY** SCALE NTS

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RELEASED

2018 OCT 19

20 18-03

APPROVED

Entered: _____ Date: _____



WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No. _____

Route update only ☐

Job: _____ Part No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐	DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Eng. (Non-AW) ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Engineering ☐ Water Jet ☐ Supplier ☐ Quality ☐			
Date :	Sequence #:	QTY Affected :		MRB (QSI042)	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor	
				QC / QA Coordinator	
Root Cause Operator ☐ Manufacturing Process ☐ Equip/Tooling ☐ Handling/Presservation ☐ Material ☐ Product Improvement ☐ Process Improvement ☐ Human Factors ☐ ☐ Pressure/Forced ☐ Bending ☐ Crushing ☐ Cracks ☐ Crimp/Kink/Ripple/Wave/Twist ☐ Marks/Chatter ☐ Mislabeled		FAULT CATEGORY ☐ Contamination ☐ Misaligned/off center ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Incomplete/Unclear Instructions ☐ Drill Holes ☐ Fit/Function ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain Direction ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set/Set-up ☐ Positioned Wrong ☐ Outside Tolerance ☐ Drawing ☐ Finish ☐ Part Lost/Missing ☐ Misread			
Other/Details:					

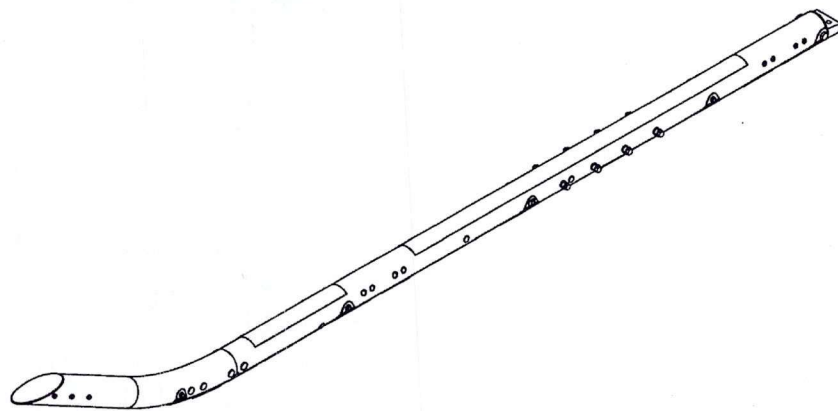
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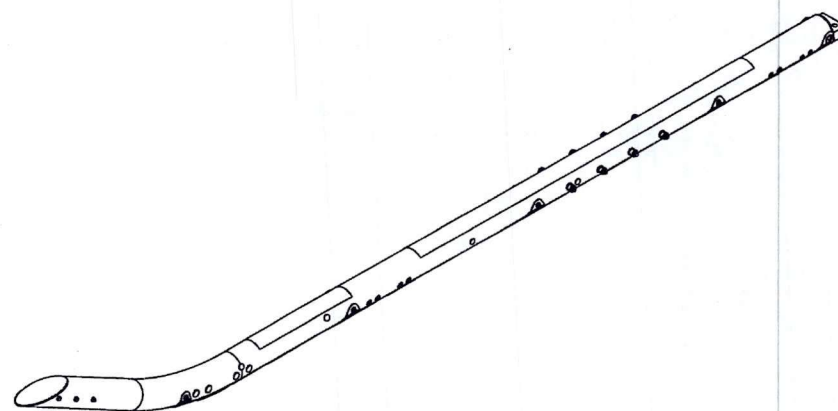
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D4168-041 350 SKIDTUBE ASSEMBLY, LH



D4168-042 350 SKIDTUBE ASSEMBLY, RH

RELEASED

2018 OCT 19

APPROVED

DESIGN	SC	DART AEROSPACE USA, INC. EUGENE, OR	
DRAWN	ZF		
CHECKED	MW	DRAWING NO.	REV. C
MFG. APPR.	DD	D4168	SHEET 2 OF 16
APPROVED	NO	TITLE	SCALE
DE APPR.	DS	350 SKIDTUBE ASSEMBLY	NTS
DATE	18.03.01	COPYRIGHT © 2010 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

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Entered: _____ Date: _____



WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No. _____

Route update only ☐

Job: _____ Part No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐	DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Eng. (Non-AW) ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Engineering ☐ Water Jet ☐ Supplier ☐ Quality ☐			
Date :	Sequence #:	QTY Affected :		MRB (QSI042)	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor	
				QC / QA Coordinator	
Root Cause Operator ☐ Manufacturing Process ☐ Equip/Tooling ☐ Handling/Preservation ☐ Material ☐ Product Improvement ☐ Process Improvement ☐ Human Factors ☐ ☐ Pressure/Forced ☐ Bending ☐ Crushing ☐ Cracks ☐ Crimp/Kink/Ripple/Wave/Twist ☐ Marks/Chatter ☐ Mislabeled		FAULT CATEGORY ☐ Contamination ☐ Misaligned/off center ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Incomplete/Unclear Instructions ☐ Drill Holes ☐ Fit/Function ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain Direction ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set/Set-up ☐ Positioned Wrong ☐ Outside Tolerance ☐ Drawing ☐ Finish ☐ Part Lost/Missing ☐ Misread			
Other/Details:					

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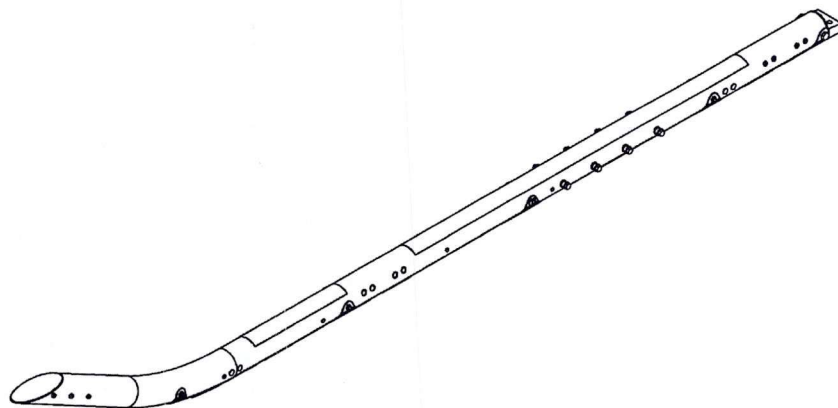
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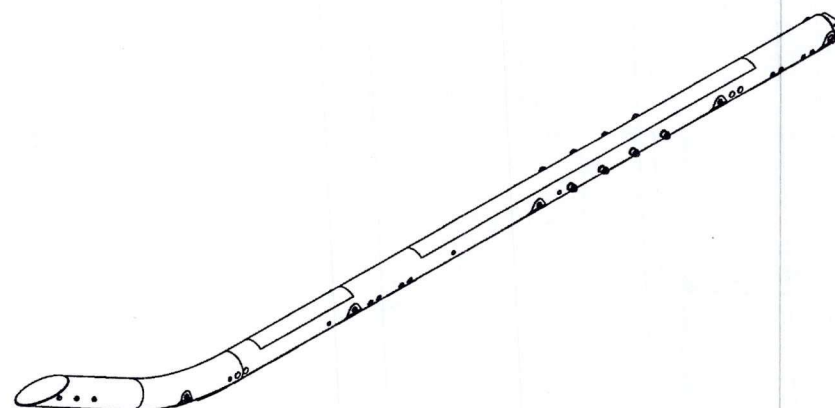
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D4168-043 350 SKIDTUBE ASSEMBLY, LH



D4168-044 350 SKIDTUBE ASSEMBLY, RH

RELEASED
2018 OCT 19

APPROVED

DESIGN	SC	DART AEROSPACE USA, INC. EUGENE, OR	
DRAWN	ZF		
CHECKED	MW	DRAWING NO. D4168	REV. C SHEET 3 OF 16
MFG. APPR.	DD	TITLE 350 SKIDTUBE ASSEMBLY	
APPROVED	NO		
DE APPR.	DS	DATE 18.03.01	SCALE NTS

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Entered: _____ Date: _____



WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No. _____

Route update only ☐

Job: _____ Part No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐	DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Eng. (Non-AW) ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Engineering ☐ Water Jet ☐ Supplier ☐ Quality ☐			
Date :	Sequence #:	QTY Affected :		MRB (QSI042)	
Description Work Order Deviation		Disposition		Completed By Lead hand / Supervisor QC / QA Coordinator	
Root Cause Operator ☐ Manufacturing Process ☐ Equip/Tooling ☐ Handling/Presservation ☐ Material ☐ Product Improvement ☐ Process Improvement ☐ Human Factors ☐		FAULT CATEGORY ☐ Pressure/Forced ☐ Bending ☐ Crushing ☐ Cracks ☐ Crimp/Kink/Ripple/Wave/Twist ☐ Marks/Chatter ☐ Mislabeled ☐ Contamination ☐ Misaligned/off center ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Incomplete/Unclear Instructions ☐ Drill Holes ☐ Fit/Function ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain Direction ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set/Set-up ☐ Positioned Wrong ☐ Outside Tolerance ☐ Drawing ☐ Finish ☐ Part Lost/Missing ☐ Misread			
		Other/Details:			

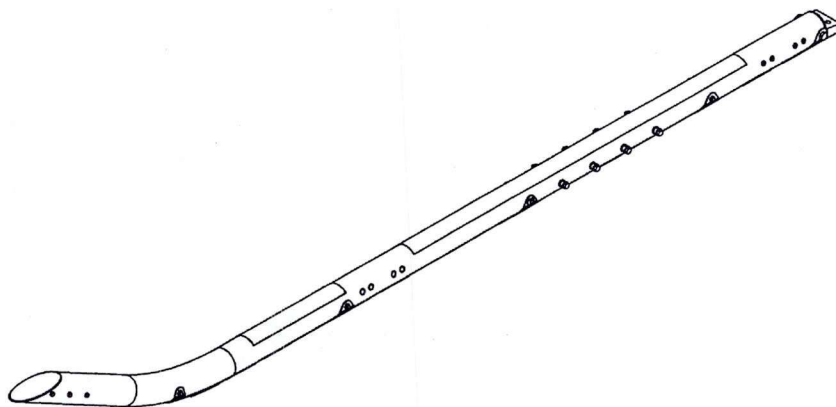
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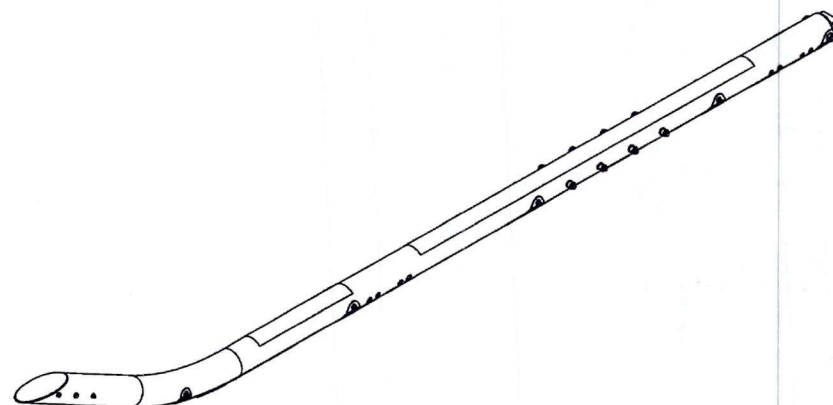
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A



D4168-051 350 SKIDTUBE ASSEMBLY, LH



D4168-052 350 SKIDTUBE ASSEMBLY, RH

RELEASED

2013 OCT 19

APPROVED

DESIGN	SC	DART AEROSPACE USA, INC.	
DRAWN	ZF	EUGENE, OR	
CHECKED	MW	DRAWING NO.	REV. C
MFG. APPR.	DD	D4168	SHEET 4 OF 16
APPROVED	NO	TITLE	SCALE
DE APPR.	DS	350 SKIDTUBE ASSEMBLY	NTS
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8 7 6 5 4 3 2 1

Entered: _____ Date: _____

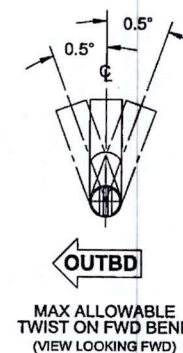
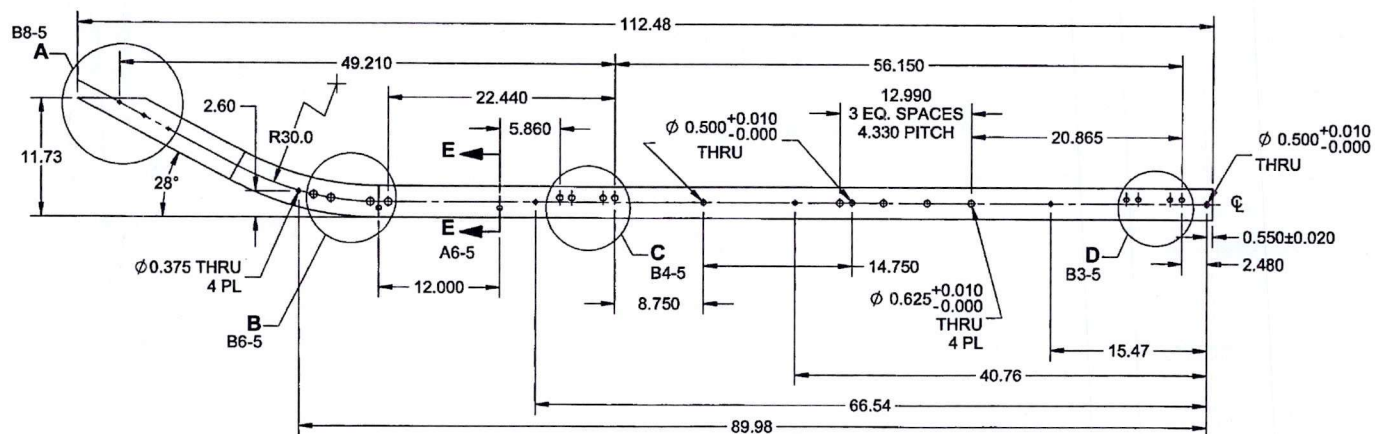


WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

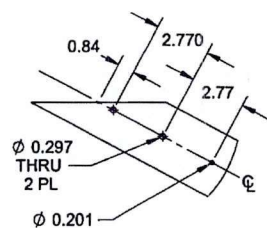
NCR No. _____

Route update only ☐

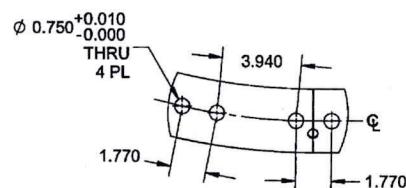
Job: _____ Part No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐	DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Eng. (Non-AW) ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Engineering ☐ Water Jet ☐ Supplier ☐ Quality ☐			
Date :	Sequence #:	QTY Affected :		MRB (QSI042)	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor	
				QC / QA Coordinator	
Root Cause Operator ☐ Manufacturing Process ☐ Equip/Tooling ☐ Handling/Preservation ☐ Material ☐ Product Improvement ☐ Process Improvement ☐ Human Factors ☐		FAULT CATEGORY ☐ Pressure/Forced ☐ Bending ☐ Crushing ☐ Cracks ☐ Crimp/Kink/Ripple/Wave/Twist ☐ Marks/Chatter ☐ Mislabeled ☐ Contamination ☐ Misaligned/off center ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Incomplete/Unclear Instructions ☐ Drill Holes ☐ Fit/Function ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain Direction ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set/Set-up ☐ Positioned Wrong ☐ Outside Tolerance ☐ Drawing ☐ Finish ☐ Part Lost/Missing ☐ Misread			
Other/Details:					



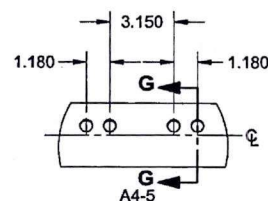
D4168-1 LH SKIDTUBE



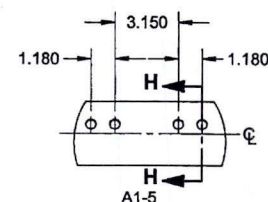
DETAIL A
SCALE 2X



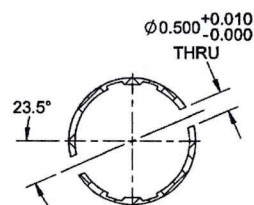
DETAIL B
SCALE 2X



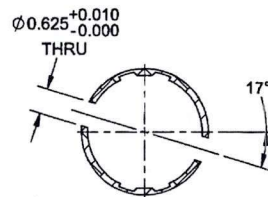
DETAIL C
SCALE 2X



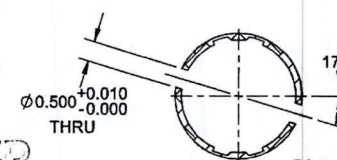
DETAIL D
SCALE 2X



SECTION E-E
SCALE 4X, 2 PL



SECTION G-G
SCALE 4X, 4 PL



SECTION H-H
SCALE 4X, 4 PL

RELEASED
2019 OCT 19

APPROVED	DESIGN	SC	DART AEROSPACE USA, INC.	
	DRAWN	ZF	EUGENE, OR	
	CHECKED	MW	DRAWING NO.	REV. C
	MFG. APPR.	DD	D4168	SHEET 5 OF 16
	APPROVED	NO	TITLE	SCALE
	DE APPR.	DS	350 SKIDTUBE ASSEMBLY	NTS
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Entered: _____ Date: _____

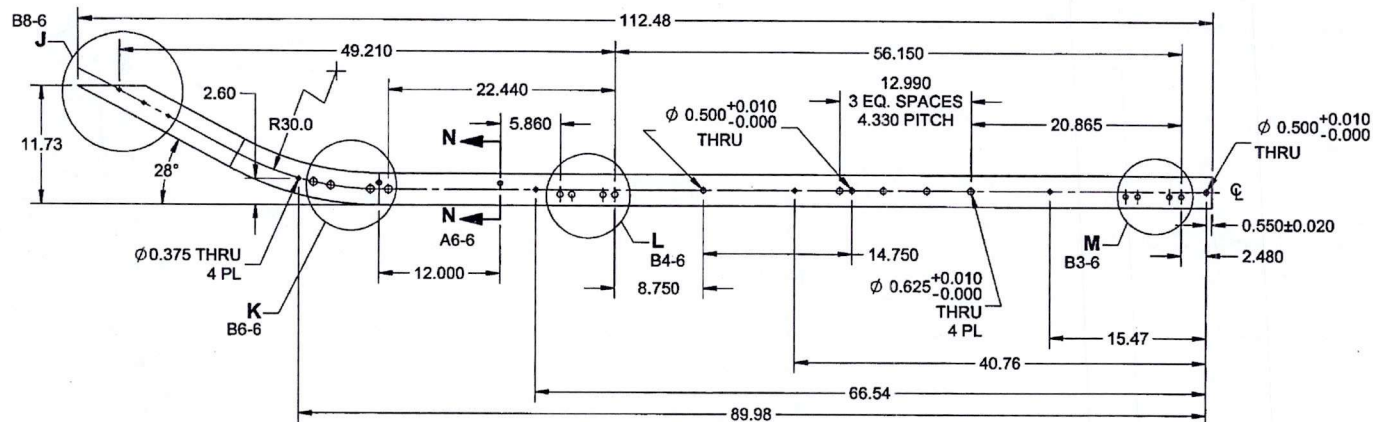


WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

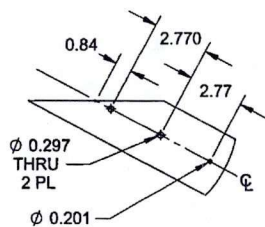
NCR No. _____

Route update only ☐

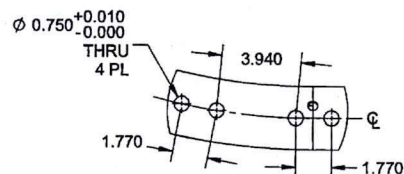
Job: _____ Part No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐	DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Eng. (Non-AW) ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Engineering ☐ Water Jet ☐ Supplier ☐ Quality ☐			
Date :	Sequence #:	QTY Affected :		MRB (QSI042)	
Description Work Order Deviation			Disposition		
			Completed By		
			Lead hand / Supervisor		
			QC / QA Coordinator		
Root Cause Operator ☐ Manufacturing Process ☐ Equip/Tooling ☐ Handling/Preservation ☐ Material ☐ Product Improvement ☐ Process Improvement ☐ Human Factors ☐		FAULT CATEGORY ☐ Pressure/Forced ☐ Bending ☐ Crushing ☐ Cracks ☐ Crimp/Kink/Ripple/Wave/Twist ☐ Marks/Chatter ☐ Mislabeled ☐ Contamination ☐ Misaligned/off center ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Incomplete/Unclear Instructions ☐ Drill Holes ☐ Fit/Function ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain Direction ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set/Set-up ☐ Positioned Wrong ☐ Outside Tolerance ☐ Drawing ☐ Finish ☐ Part Lost/Missing ☐ Misread			
Other/Details:					



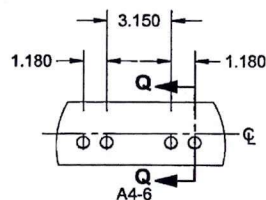
D4168-2 RH SKIDTUBE



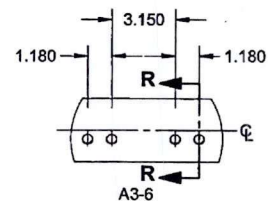
DETAIL J
SCALE 2X



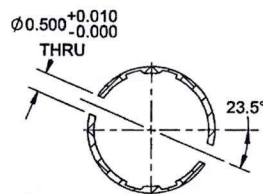
DETAIL K
SCALE 2X



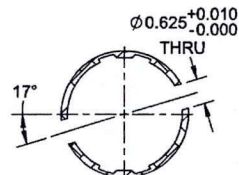
DETAIL L
SCALE 2X



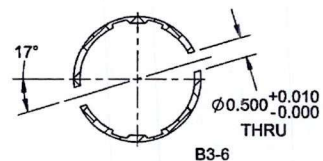
DETAIL M
SCALE 2X



SECTION N-N
SCALE 4X, 2 PL



SECTION Q-Q
SCALE 4X, 4 PL



SECTION R-R
SCALE 4X, 4 PL

RELEASED

2010 OCT 19

APPROVED

DESIGN	SC
DRAWN	ZF
CHECKED	MW
MFG. APPR.	DD
APPROVED	NO
DE APPR.	DS
DATE	18.03.01

DART AEROSPACE USA, INC.
EUGENE, OR

DRAWING NO. **D4168** REV. C
SHEET 6 OF 16
TITLE **350 SKIDTUBE ASSEMBLY** SCALE NTS

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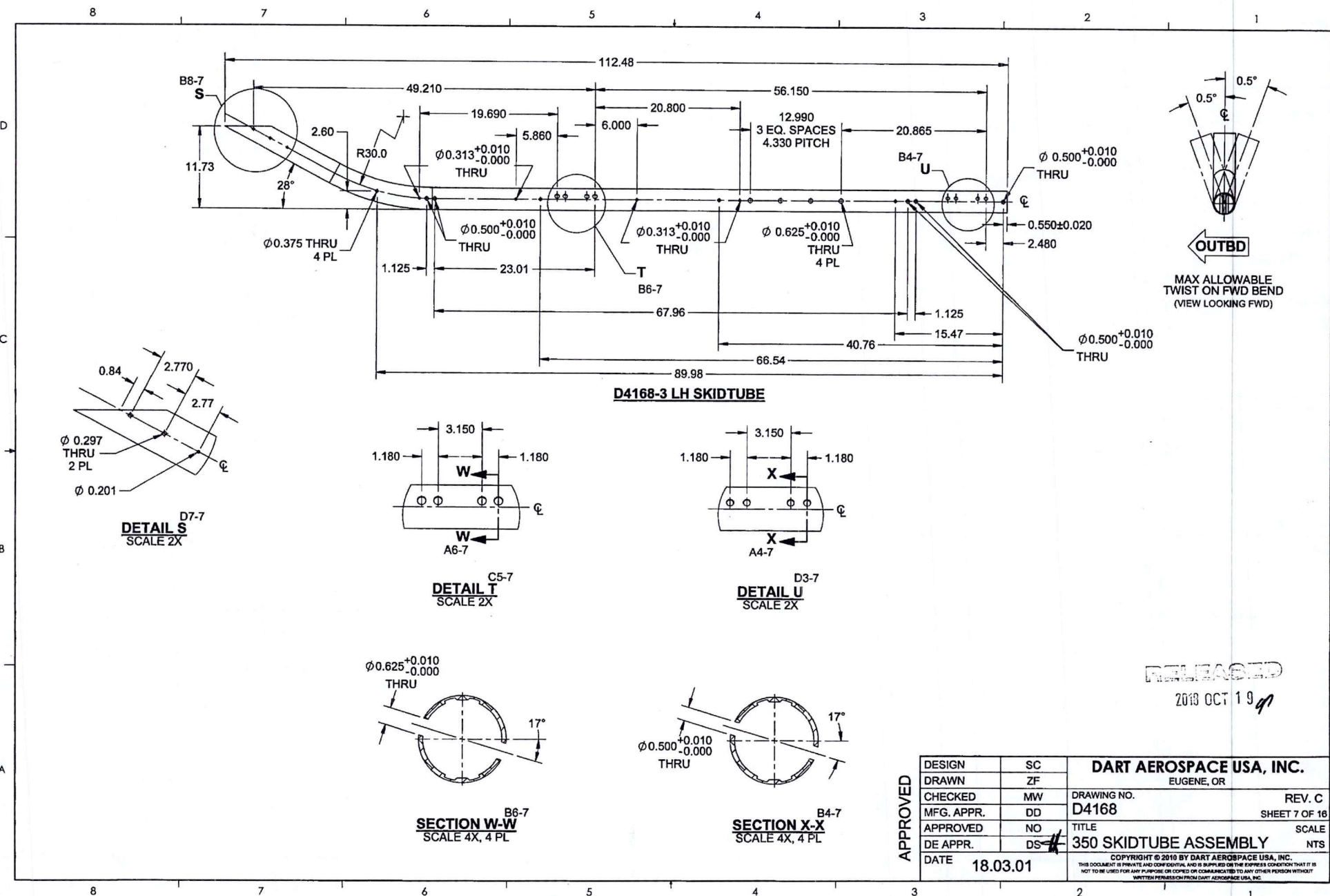


WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No. _____

Route update only ☐

Job: _____ Part No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐	DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Eng. (Non-AW) ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Engineering ☐ Water Jet ☐ Supplier ☐ Quality ☐			
Date :	Sequence #:	QTY Affected :		MRB (QSI042)	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor	
				QC / QA Coordinator	
Root Cause Operator ☐ Manufacturing Process ☐ Equip/Tooling ☐ Handling/Presservation ☐ Material ☐ Product Improvement ☐ Process Improvement ☐ Human Factors ☐ ☐ Pressure/Forced ☐ Bending ☐ Crushing ☐ Cracks ☐ Crimp/Kink/Ripple/Wave/Twist ☐ Marks/Chatter ☐ Mislabeled		FAULT CATEGORY ☐ Contamination ☐ Misaligned/off center ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Incomplete/Unclear Instructions ☐ Drill Holes ☐ Fit/Function ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain Direction ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set/Set-up ☐ Positioned Wrong ☐ Outside Tolerance ☐ Drawing ☐ Finish ☐ Part Lost/Missing ☐ Misread			
Other/Details:					



Entered: _____ Date: _____

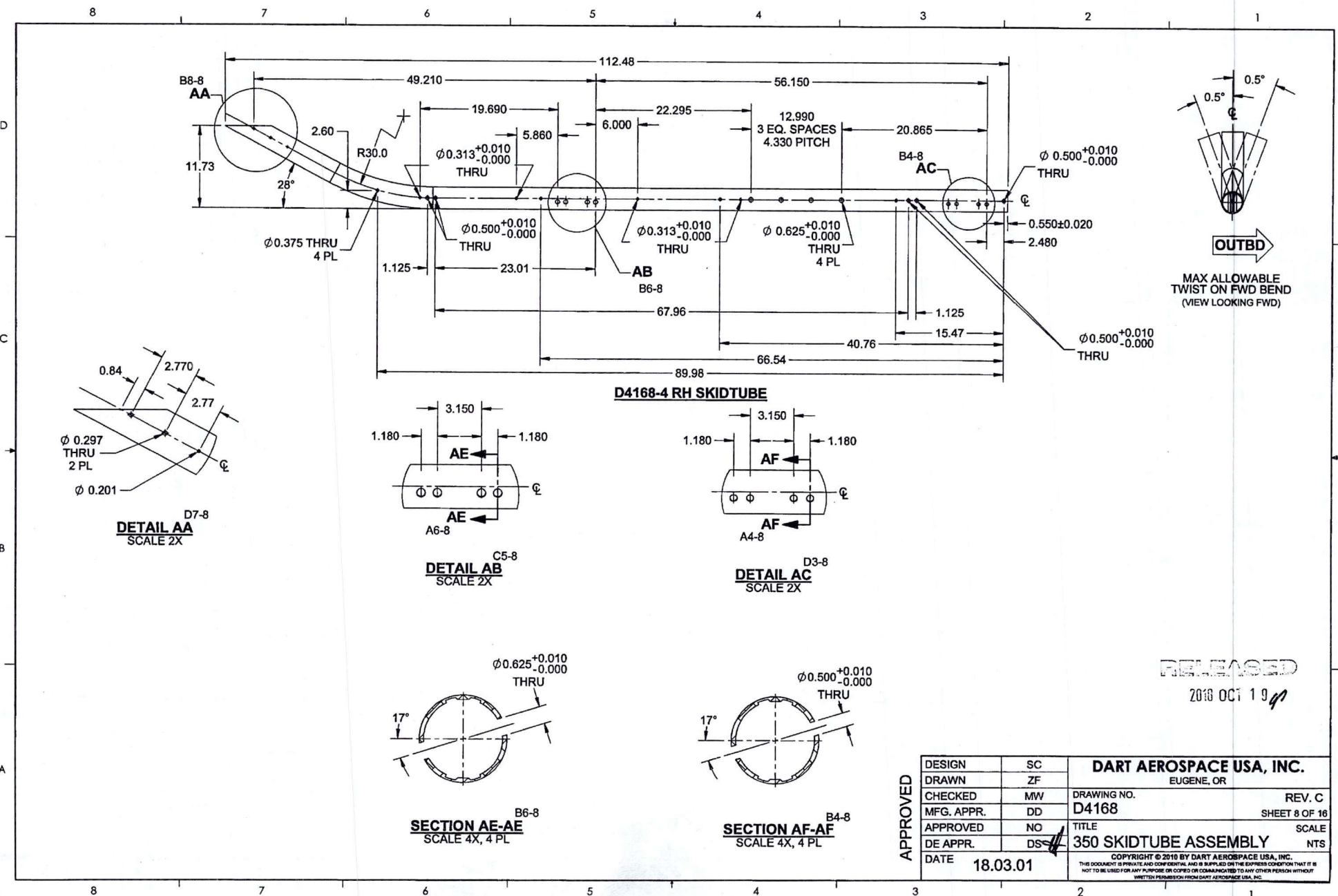


WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No. _____

Route update only ☐

Job: _____ Part No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐	DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Eng. (Non-AW) ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Engineering ☐ Water Jet ☐ Supplier ☐ Quality ☐			
Date :	Sequence #:	QTY Affected :		MRB (QSI042)	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor	
				QC / QA Coordinator	
Root Cause Operator ☐ Manufacturing Process ☐ Equip/Tooling ☐ Handling/Presservation ☐ Material ☐ Product Improvement ☐ Process Improvement ☐ Human Factors ☐ ☐ Pressure/Forced ☐ Bending ☐ Crushing ☐ Cracks ☐ Crimp/Kink/Ripple/Wave/Twist ☐ Marks/Chatter ☐ Mislabeled		FAULT CATEGORY ☐ Contamination ☐ Misaligned/off center ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Incomplete/Unclear Instructions ☐ Drill Holes ☐ Fit/Function ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain Direction ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set/Set-up ☐ Positioned Wrong ☐ Outside Tolerance ☐ Drawing ☐ Finish ☐ Part Lost/Missing ☐ Misread			
Other/Details:					



RELEASED

2018 OCT 19

APPROVED

DESIGN	SC	DART AEROSPACE USA, INC.	
DRAWN	ZF	EUGENE, OR	
CHECKED	MW	DRAWING NO.	REV. C
MFG. APPR.	DD	D4168	SHEET 8 OF 16
APPROVED	NO	TITLE	SCALE
DE APPR.	DS	350 SKIDTUBE ASSEMBLY	NTS
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Entered: _____ Date: _____

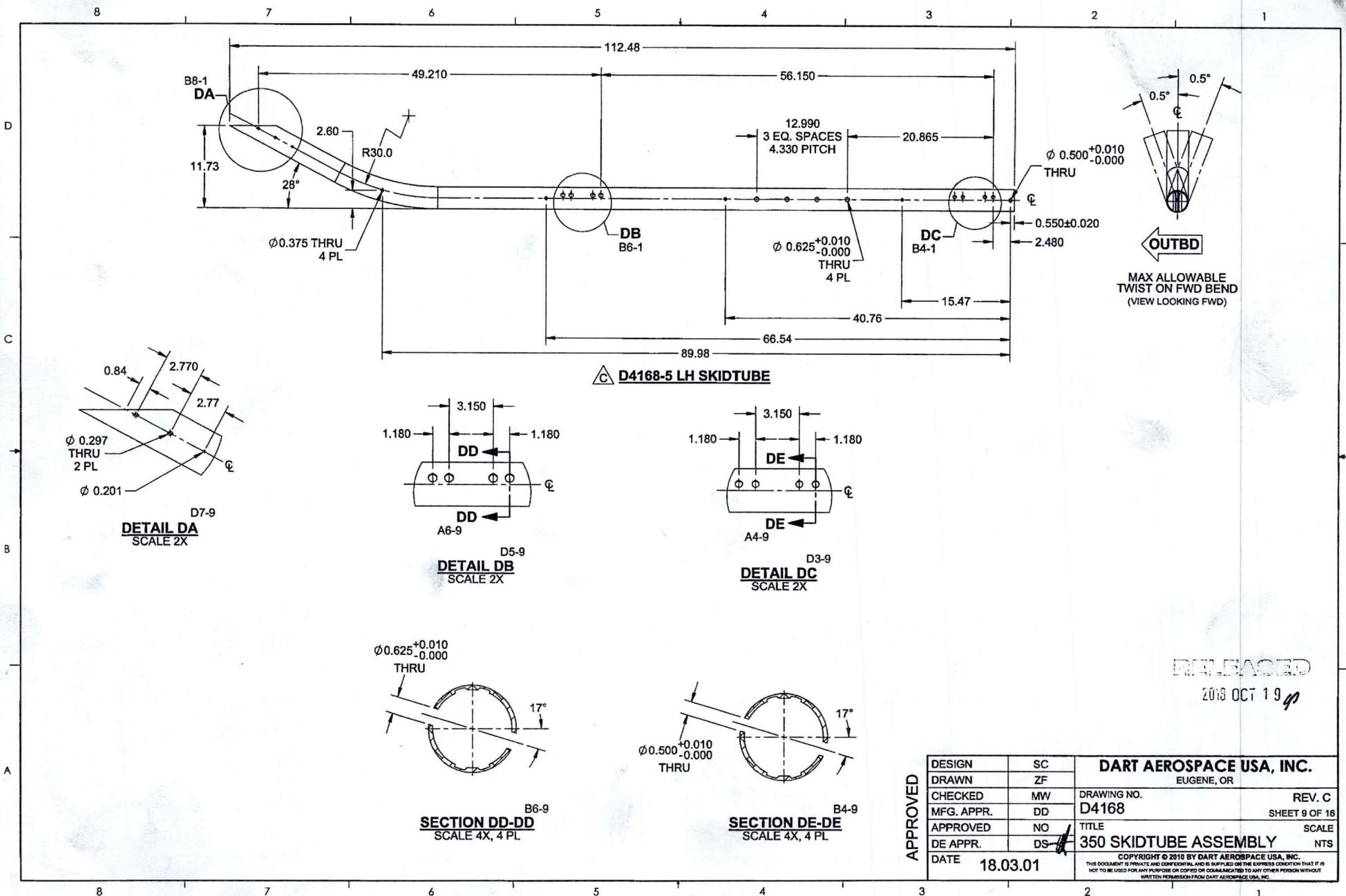


WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No. _____

Route update only ☐

Job: _____ Part No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐	DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Eng. (Non-AW) ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Engineering ☐ Water Jet ☐ Supplier ☐ Quality ☐			
Date :	Sequence #:	QTY Affected :		MRB (QSI042)	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor	
				QC / QA Coordinator	
Root Cause Operator ☐ Manufacturing Process ☐ Equip/Tooling ☐ Handling/Presservation ☐ Material ☐ Product Improvement ☐ Process Improvement ☐ Human Factors ☐		FAULT CATEGORY ☐ Pressure/Forced ☐ Bending ☐ Crushing ☐ Cracks ☐ Crimp/Kink/Ripple/Wave/Twist ☐ Marks/Chatter ☐ Mislabeled ☐ Contamination ☐ Misaligned/off center ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Incomplete/Unclear Instructions ☐ Drill Holes ☐ Fit/Function ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain Direction ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set/Set-up ☐ Positioned Wrong ☐ Outside Tolerance ☐ Drawing ☐ Finish ☐ Part Lost/Missing ☐ Misread			
Other/Details:					



RELEASED
2018 OCT 19

DESIGN	SC	DART AEROSPACE USA, INC.	
DRAWN	ZF	EUGENE, OR	
CHECKED	MW	DRAWING NO.	REV. C
MFG. APPR.	DD	D4168	SHEET 9 OF 16
APPROVED	NO	TITLE	SCALE
DE APPR.	DS	350 SKIDTUBE ASSEMBLY	NTS
DATE	18.03.01	COPYRIGHT © 2010 BY DART AEROSPACE USA, INC.	
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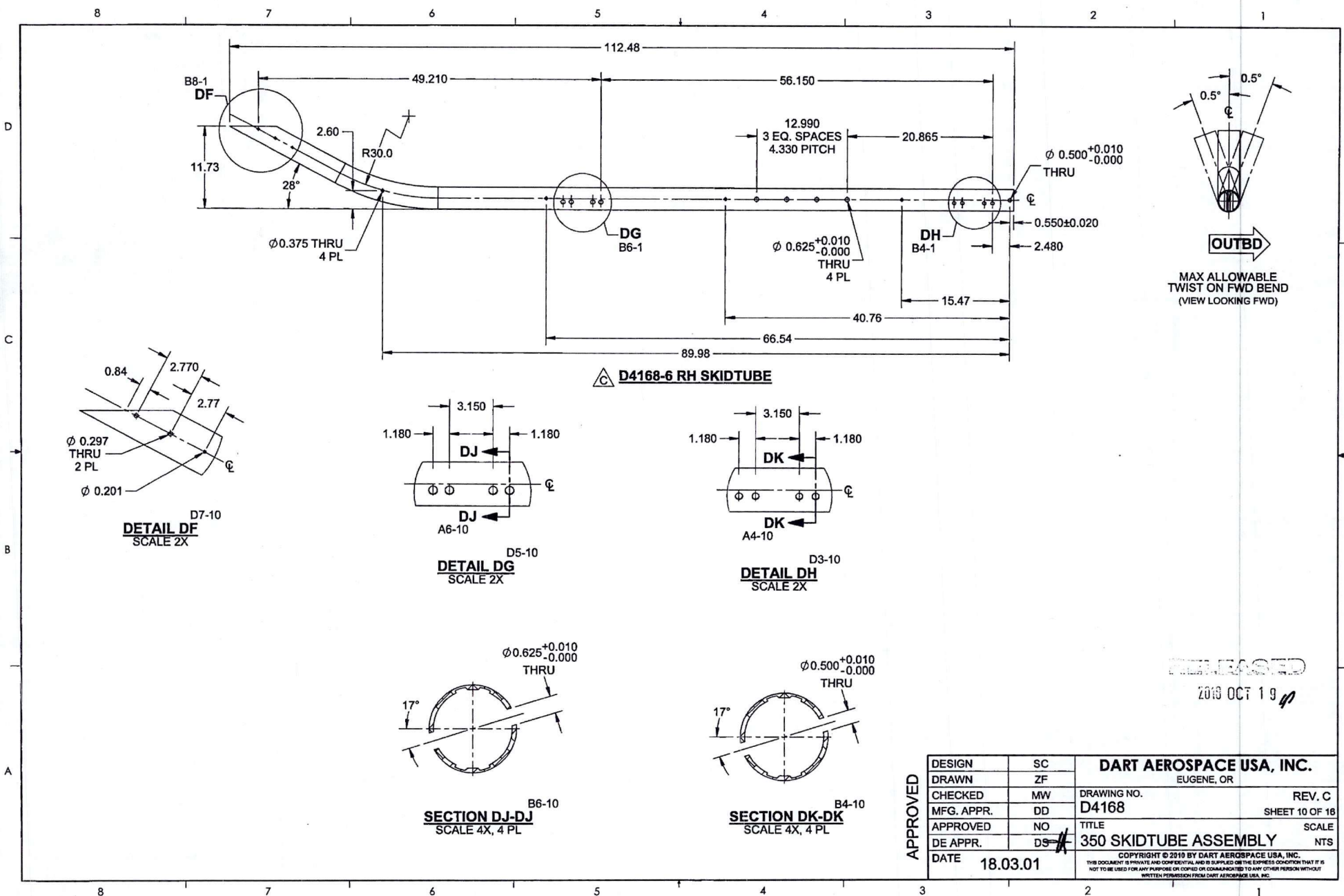


WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No. _____

Route update only ☐

Job: _____ Part No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐	DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Eng. (Non-AW) ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Engineering ☐ Water Jet ☐ Supplier ☐ Quality ☐			
Date :	Sequence #:	QTY Affected :		MRB (QSI042)	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor	
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Root Cause Operator ☐ Manufacturing Process ☐ Equip/Tooling ☐ Handling/Presservation ☐ Material ☐ Product Improvement ☐ Process Improvement ☐ Human Factors ☐ ☐ Pressure/Forced ☐ Bending ☐ Crushing ☐ Cracks ☐ Crimp/Kink/Ripple/Wave/Twist ☐ Marks/Chatter ☐ Mislabeled		FAULT CATEGORY ☐ Contamination ☐ Misaligned/off center ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Incomplete/Unclear Instructions ☐ Drill Holes ☐ Fit/Function ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain Direction ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set/Set-up ☐ Positioned Wrong ☐ Outside Tolerance ☐ Drawing ☐ Finish ☐ Part Lost/Missing ☐ Misread			
Other/Details:					



Entered: _____ Date: _____

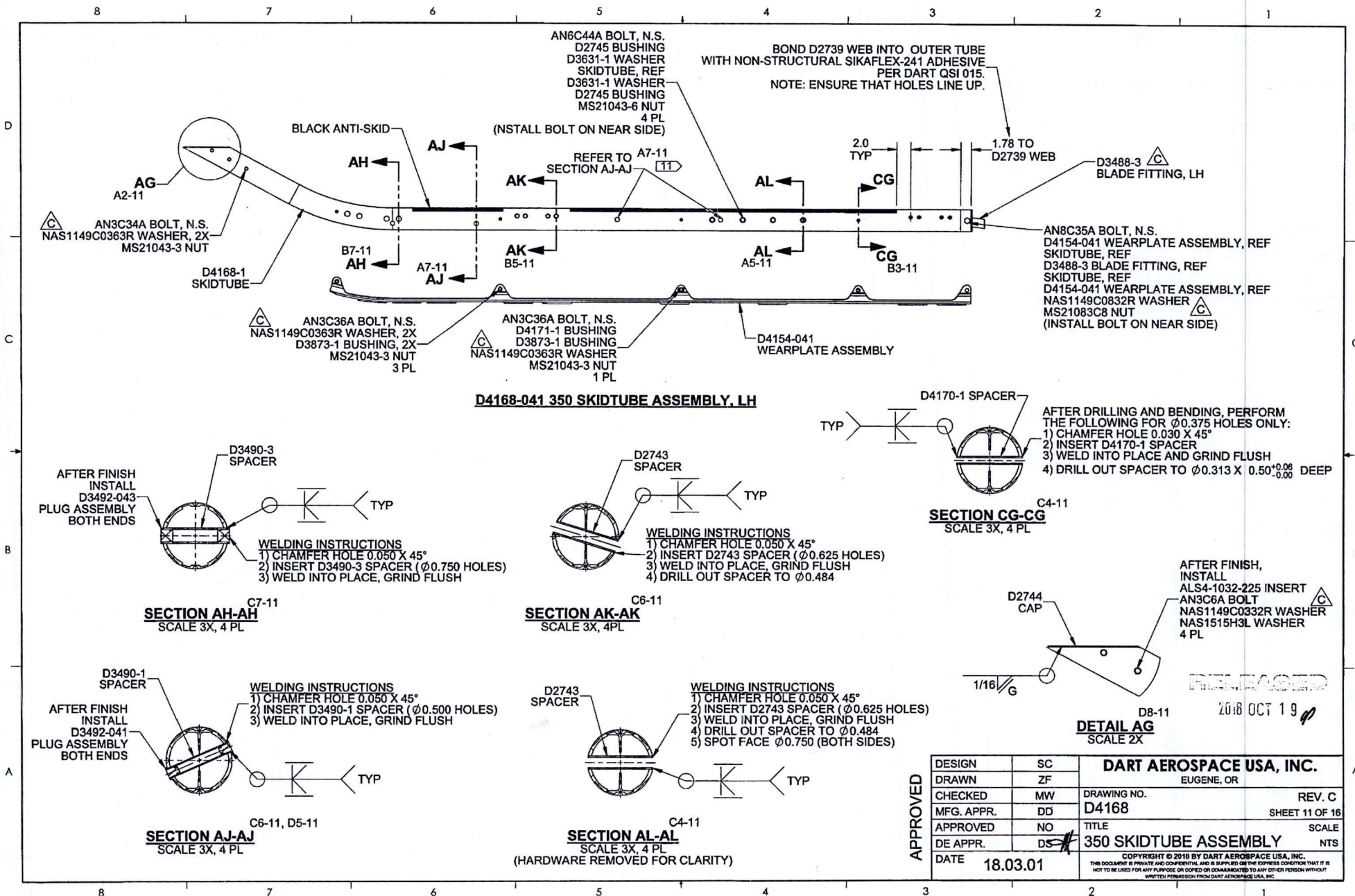


WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No. _____

Route update only ☐

Job: _____ Part No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐	DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Eng. (Non-AW) ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Engineering ☐ Water Jet ☐ Supplier ☐ Quality ☐			
Date :	Sequence #:	QTY Affected :		MRB (QSI042)	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor	
				QC / QA Coordinator	
Root Cause Operator ☐ Manufacturing Process ☐ Equip/Tooling ☐ Handling/Presservation ☐ Material ☐ Product Improvement ☐ Process Improvement ☐ Human Factors ☐		FAULT CATEGORY ☐ Pressure/Forced ☐ Bending ☐ Crushing ☐ Cracks ☐ Crimp/Kink/Ripple/Wave/Twist ☐ Marks/Chatter ☐ Mislabeled ☐ Contamination ☐ Misaligned/off center ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Incomplete/Unclear Instructions ☐ Drill Holes ☐ Fit/Function ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain Direction ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set/Set-up ☐ Positioned Wrong ☐ Outside Tolerance ☐ Drawing ☐ Finish ☐ Part Lost/Missing ☐ Misread			
Other/Details:					



Entered: _____ Date: _____

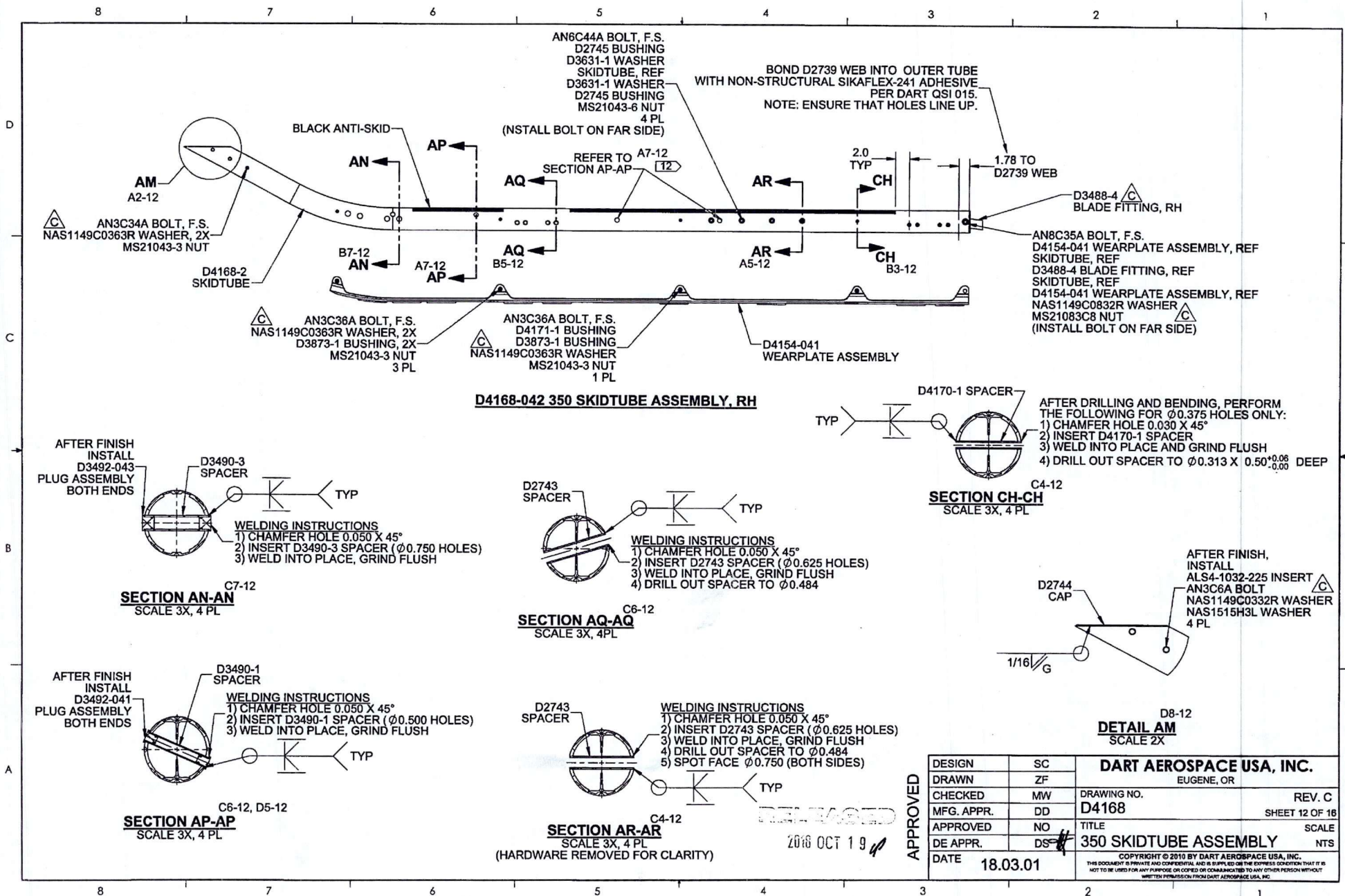


WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No. _____

Route update only ☐

Job: _____ Part No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐	DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Eng. (Non-AW) ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Engineering ☐ Water Jet ☐ Supplier ☐ Quality ☐			
Date :	Sequence #:	QTY Affected :		MRB (QSI042)	
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				Lead hand / Supervisor	
				QC / QA Coordinator	
Root Cause Operator ☐ Manufacturing Process ☐ Equip/Tooling ☐ Handling/Preservation ☐ Material ☐ Product Improvement ☐ Process Improvement ☐ Human Factors ☐ ☐ Pressure/Forced ☐ Bending ☐ Crushing ☐ Cracks ☐ Crimp/Kink/Ripple/Wave/Twist ☐ Marks/Chatter ☐ Mislabeled		FAULT CATEGORY ☐ Contamination ☐ Misaligned/off center ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Incomplete/Unclear Instructions ☐ Drill Holes ☐ Fit/Function ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain Direction ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set/Set-up ☐ Positioned Wrong ☐ Outside Tolerance ☐ Drawing ☐ Finish ☐ Part Lost/Missing ☐ Misread			
Other/Details:					



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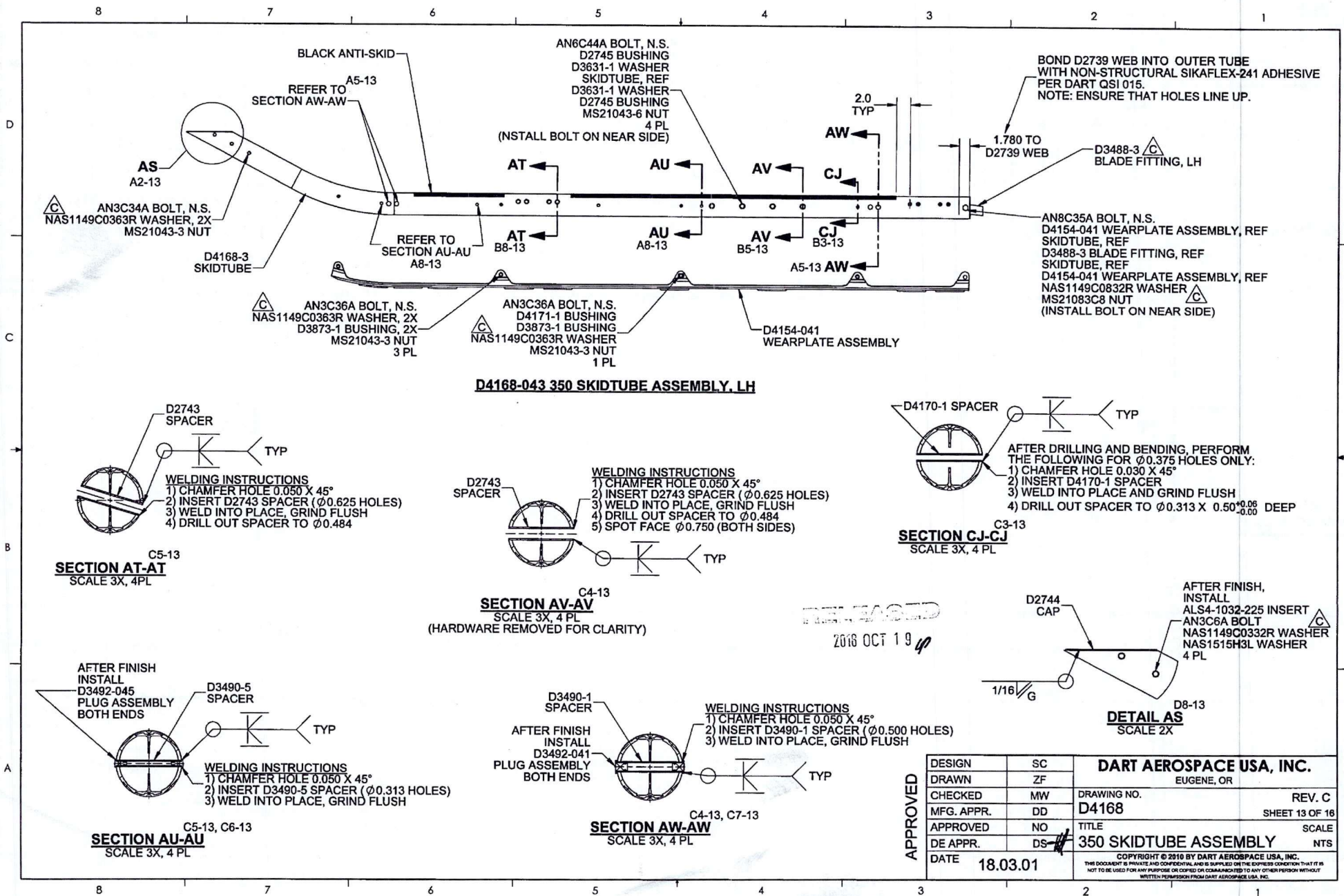


WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No. _____

Route update only ☐

Job: _____ Part No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐	DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Eng. (Non-AW) ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Engineering ☐ Water Jet ☐ Supplier ☐ Quality ☐			
Date :	Sequence #:	QTY Affected :		MRB (QSI042)	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor	
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Root Cause Operator ☐ Manufacturing Process ☐ Equip/Tooling ☐ Handling/Preservation ☐ Material ☐ Product Improvement ☐ Process Improvement ☐ Human Factors ☐ ☐ Pressure/Forced ☐ Bending ☐ Crushing ☐ Cracks ☐ Crimp/Kink/Ripple/Wave/Twist ☐ Marks/Chatter ☐ Mislabeled		FAULT CATEGORY ☐ Contamination ☐ Misaligned/off center ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Incomplete/Unclear Instructions ☐ Drill Holes ☐ Fit/Function ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain Direction ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set/Set-up ☐ Positioned Wrong ☐ Outside Tolerance ☐ Drawing ☐ Finish ☐ Part Lost/Missing ☐ Misread			
Other/Details:					



Entered: _____ Date: _____

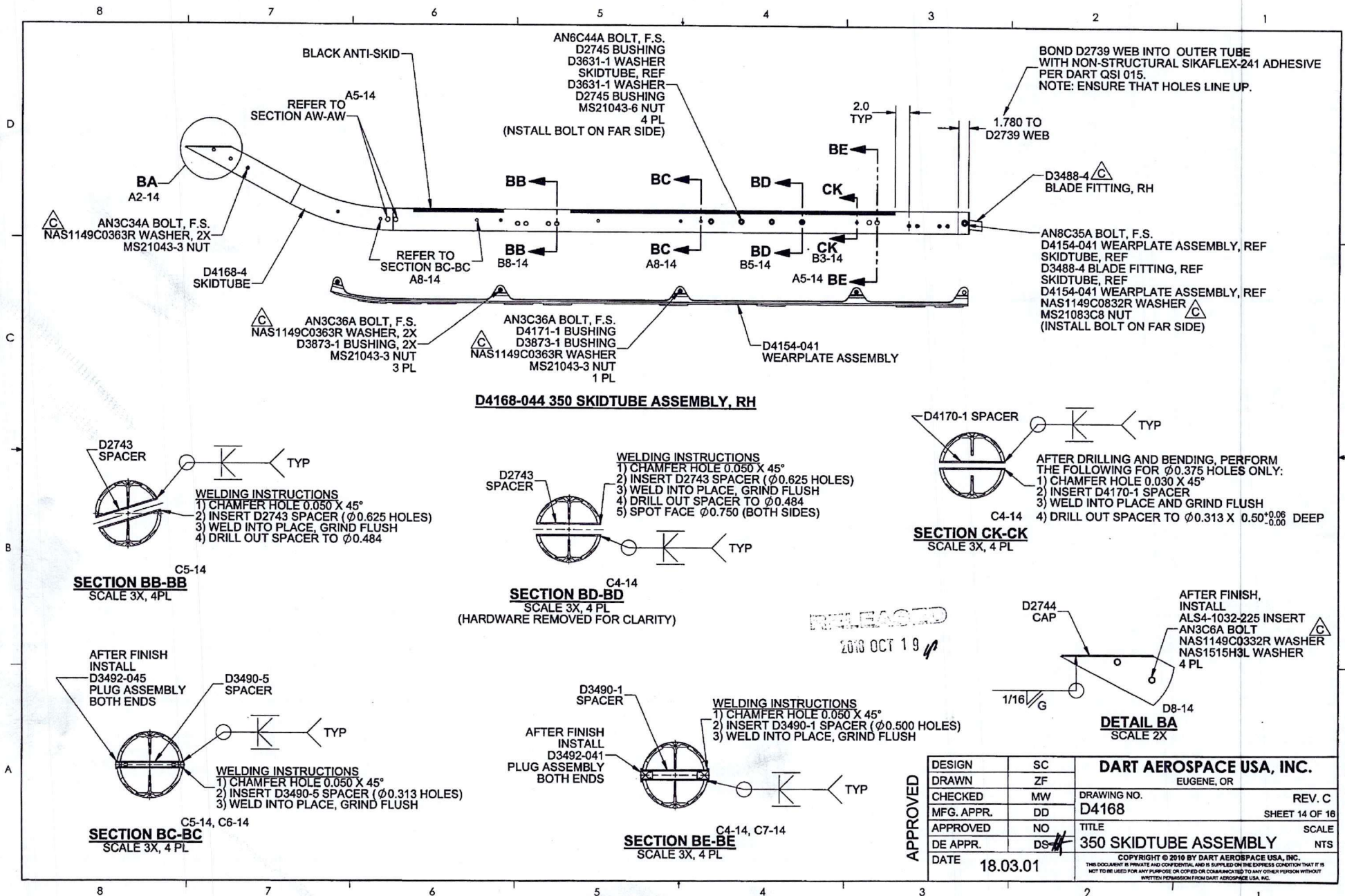


WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No. _____

Route update only ☐

Job: _____ Part No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐	DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Eng. (Non-AW) ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Engineering ☐ Water Jet ☐ Supplier ☐ Quality ☐			
Date :	Sequence #:	QTY Affected :		MRB (QSI042)	
Description Work Order Deviation		Disposition		Completed By	
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Root Cause Operator ☐ Manufacturing Process ☐ Equip/Tooling ☐ Handling/Presservation ☐ Material ☐ Product Improvement ☐ Process Improvement ☐ Human Factors ☐ ☐ Pressure/Forced ☐ Bending ☐ Crushing ☐ Cracks ☐ Crimp/Kink/Ripple/Wave/Twist ☐ Marks/Chatter ☐ Mislabeled		FAULT CATEGORY ☐ Contamination ☐ Misaligned/off center ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Incomplete/Unclear Instructions ☐ Drill Holes ☐ Fit/Function ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain Direction ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set/Set-up ☐ Positioned Wrong ☐ Outside Tolerance ☐ Drawing ☐ Finish ☐ Part Lost/Missing ☐ Misread			
Other/Details:					



Entered: _____ Date: _____

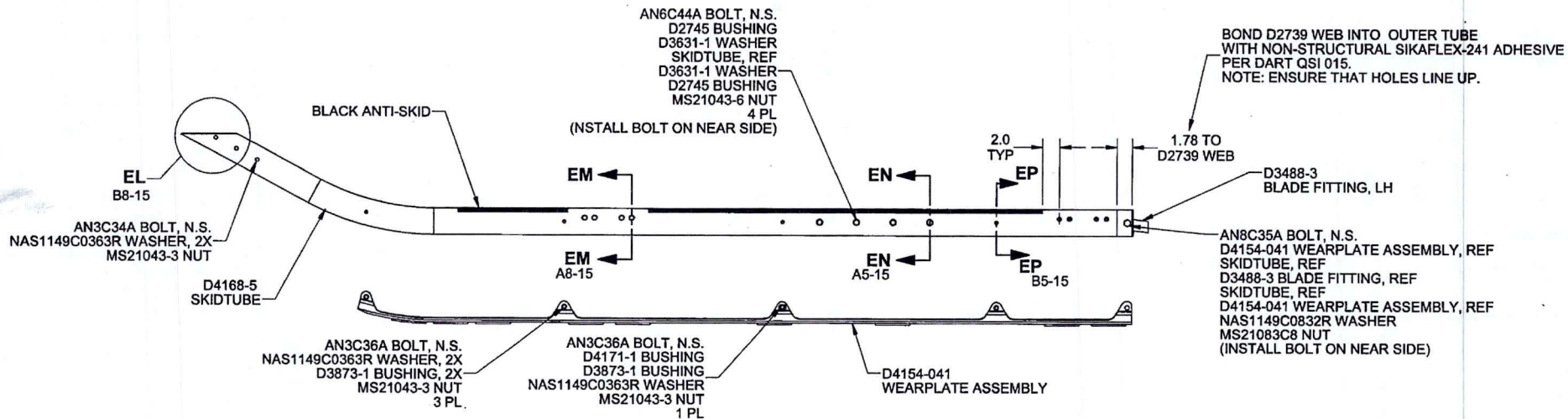


WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

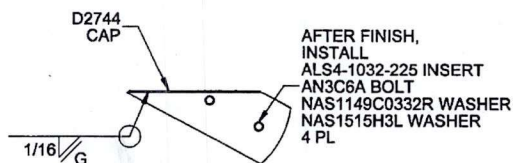
NCR No. _____

Route update only ☐

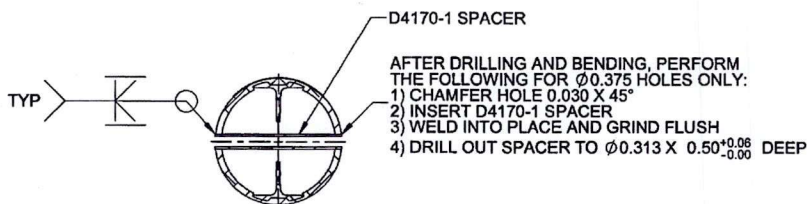
Job: _____ Part No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐	DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Eng. (Non-AW) ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Engineering ☐ Water Jet ☐ Supplier ☐ Quality ☐			
Date :	Sequence #:	QTY Affected :		MRB (QSI042)	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor	
				QC / QA Coordinator	
Root Cause Operator ☐ Manufacturing Process ☐ Equip/Tooling ☐ Handling/Preservation ☐ Material ☐ Product Improvement ☐ Process Improvement ☐ Human Factors ☐ ☐ Pressure/Forced ☐ Bending ☐ Crushing ☐ Cracks ☐ Crimp/Kink/Ripple/Wave/Twist ☐ Marks/Chatter ☐ Mislabeled		FAULT CATEGORY ☐ Contamination ☐ Misaligned/off center ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Incomplete/Unclear Instructions ☐ Drill Holes ☐ Fit/Function ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain Direction ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set/Set-up ☐ Positioned Wrong ☐ Outside Tolerance ☐ Drawing ☐ Finish ☐ Part Lost/Missing ☐ Misread			
Other/Details:					



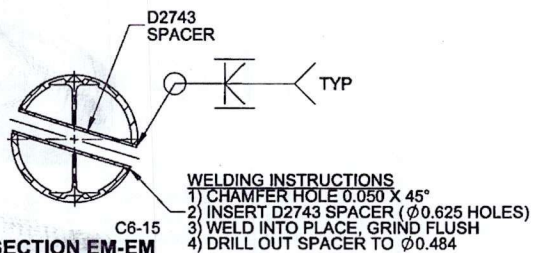
△ D4168-051 350 SKIDTUBE ASSEMBLY, LH



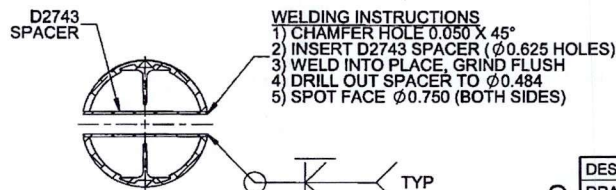
DETAIL EL
SCALE 2X



SECTION EP-EP
SCALE 4X, 4 PL



SECTION EM-EM
SCALE 4X, 4 PL



SECTION EN-EN
SCALE 4X, 4 PL
(HARDWARE REMOVED FOR CLARITY)

RELEASED
2010 OCT 19

APPROVED

DESIGN	SC	DART AEROSPACE USA, INC.	
DRAWN	ZF	EUGENE, OR	
CHECKED	MW	DRAWING NO.	REV. C
MFG. APPR.	DD	D4168	SHEET 15 OF 16
APPROVED	NO	TITLE	SCALE
DE APPR.	DS	350 SKIDTUBE ASSEMBLY	NTS
DATE	18.03.01	COPYRIGHT © 2010 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL, AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

Entered: _____ Date: _____

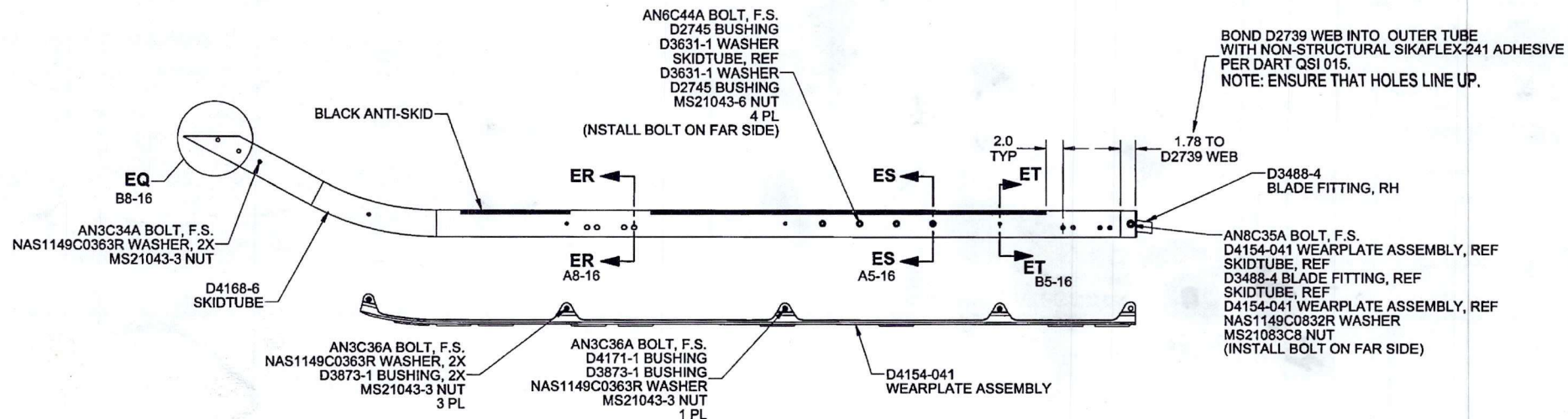


WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

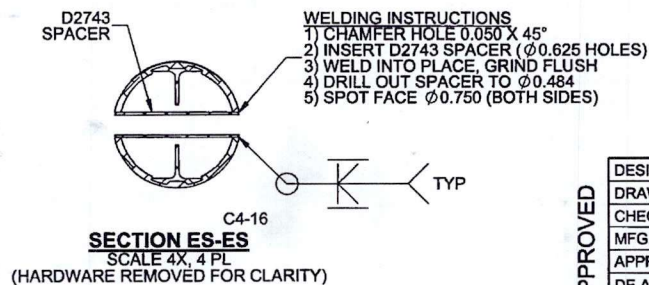
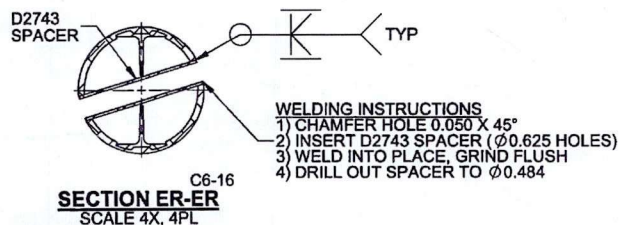
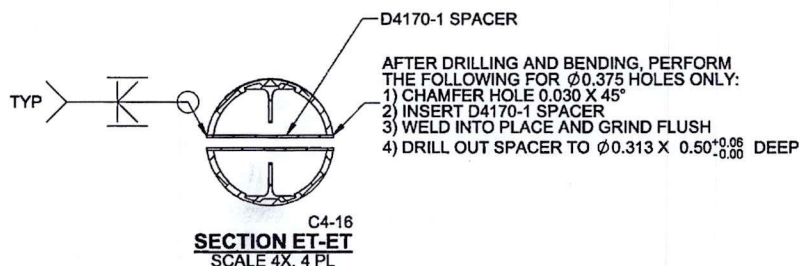
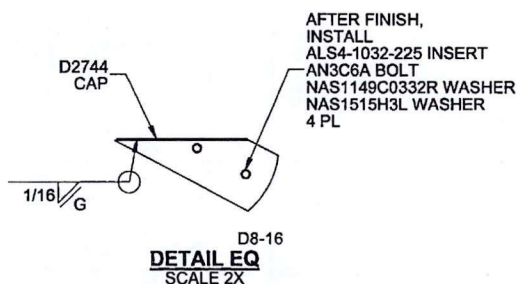
NCR No. _____

Route update only ☐

Job: _____ Part No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐	DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Eng. (Non-AW) ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Engineering ☐ Water Jet ☐ Supplier ☐ Quality ☐			
Date : _____	Sequence #: _____	QTY Affected : _____		MRB (QSI042) _____	
Description Work Order Deviation		Disposition			Completed By
					Lead hand / Supervisor
					QC / QA Coordinator
Root Cause Operator ☐ Manufacturing Process ☐ Equip/Tooling ☐ Handling/Presservation ☐ Material ☐ Product Improvement ☐ Process Improvement ☐ Human Factors ☐ ☐ Pressure/Forced ☐ Bending ☐ Crushing ☐ Cracks ☐ Crimp/Kink/Ripple/Wave/Twist ☐ Marks/Chatter ☐ Mislabeled		FAULT CATEGORY ☐ Contamination ☐ Misaligned/off center ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Incomplete/Unclear Instructions ☐ Drill Holes ☐ Fit/Function ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain Direction ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set/Set-up ☐ Positioned Wrong ☐ Outside Tolerance ☐ Drawing ☐ Finish ☐ Part Lost/Missing ☐ Misread			
Other/Details:					



D4168-052 350 SKIDTUBE ASSEMBLY, RH



RELEASED
2010 OCT 19

APPROVED

DESIGN	SC	DART AEROSPACE USA, INC.	
DRAWN	ZF	EUGENE, OR	
CHECKED	MW	DRAWING NO.	REV. C
MFG. APPR.	DD	D4168	SHEET 16 OF 16
APPROVED	NO	TITLE	SCALE
DE APPR.	DS	350 SKIDTUBE ASSEMBLY	NTS
DATE	18.03.01	COPYRIGHT © 2010 BY DART AEROSPACE USA, INC.	
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Entered: _____ Date: _____



WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No. _____

Route update only ☐

Job: _____ Part No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐		DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Eng. (Non-AW) ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Engineering ☐ Water Jet ☐ Supplier ☐ Quality ☐			
Date : _____		Sequence #: _____		QTY Affected : _____		MRB (QSI042)	
Description Work Order Deviation				Disposition			
				Completed By			
				Lead hand / Supervisor			
				QC / QA Coordinator			
Root Cause Operator ☐ Manufacturing Process ☐ Equip/Tooling ☐ Handling/Preservation ☐ Material ☐ Product Improvement ☐ Process Improvement ☐ Human Factors ☐		FAULT CATEGORY ☐ Pressure/Forced ☐ Bending ☐ Crushing ☐ Cracks ☐ Crimp/Kink/Ripple/Wave/Twist ☐ Marks/Chatter ☐ Mislabeled ☐ Contamination ☐ Misaligned/off center ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Incomplete/Unclear Instructions ☐ Drill Holes ☐ Fit/Function ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain Direction ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set/Set-up ☐ Positioned Wrong ☐ Outside Tolerance ☐ Drawing ☐ Finish ☐ Part Lost/Missing ☐ Misread					
		Other/Details: _____					

7.0 PARTS LIST

D350-636-015/-016/-017/-018 SKIDTUBES AT CHG 006 AND SUBSEQUENT
D350-636-023/-024 SKIDTUBES AT CHG 001 AND SUBSEQUENT

Item	Qty -015	Qty -016	Qty -017	Qty -018	Qty -023	Qty -024	Qty -047	Part Number	Description
	X							D350-636-015	SKIDTUBE INSTALLATION, LH, AERAZUR/DART CYLINDRICAL FLOAT COMPATIBLE W/TRAINING WEARPLATE
		X						D350-636-016	SKIDTUBE INSTALLATION, RH, AERAZUR/DART CYLINDRICAL FLOAT COMPATIBLE W/TRAINING WEARPLATE
			X					D350-636-017	SKIDTUBE INSTALLATION, LH AIRCRAUSER/DART TRI-BAG FLOAT COMPATIBLE W/TRAINING WEARPLATE
				X				D350-636-018	SKIDTUBE INSTALLATION, RH AIRCRAUSER/DART TRI-BAG FLOAT COMPATIBLE W/TRAINING WEARPLATE
					X			D350-636-023	SKIDTUBE INSTALLATION, LH, STD COMPATIBLE W/TRAINING WEARPLATE
						X		D350-636-024	SKIDTUBE INSTALLATION, RH, STD COMPATIBLE W/TRAINING WEARPLATE
							X	D350-636-047	TRAINING WEARPLATE KIT (LH/RH)
1	1							D4168-041	SKIDTUBE ASSEMBLY, LH
1		1						D4168-042	SKIDTUBE ASSEMBLY, RH
1			1					D4168-043	SKIDTUBE ASSEMBLY, LH
1				1				D4168-044	SKIDTUBE ASSEMBLY, RH
1					1			D4168-051	SKIDTUBE ASSEMBLY, LH
1						1		D4168-052	SKIDTUBE ASSEMBLY, RH
*1	1							D4168-1	SKIDTUBE WELDMENT, LH
*1		1						D4168-2	SKIDTUBE WELDMENT, RH
*1			1					D4168-3	SKIDTUBE WELDMENT, LH
*1				1				D4168-4	SKIDTUBE WELDMENT, RH
*1					1			D4168-5	SKIDTUBE WELDMENT, LH
*1						1		D4168-6	SKIDTUBE WELDMENT, RH
**2	8	8	8	8	8	8		350A41-1027-20	SCREW
**3	8	8	8	8	8	8		23119AG120LE	WASHER
**4	8	8	8	8	8	8		22541N120	NUT
*5	1	1	1	1	1	1		AN8C35A	BOLT
*6A	1	1	1	1	1	1		NAS1149CO832R	WASHER
*7	1	1	1	1	1	1		MS21083C8	NUT
*8	1		1		1			D3488-3	BLADE FITTING, LH
*8		1		1		1		D3488-4	BLADE FITTING, RH
9	1	1	1	1	1	1		D2741	BLADE
10	2	2	2	2	2	2		AN8C21A	BOLT
11	2	2	2	2	2	2		NAS1149CO863J	WASHER
12	2	2	2	2	2	2		MS21083C8	NUT
*14	4	4	4	4	4	4		AN6C44A	BOLT
*15	8	8	8	8	8	8		D2745	BUSHING
*16	4	4	4	4	4	4		MS21043-6	NUT
*17	8	8	8	8	8	8		D3631-1	WASHER
*18	4	4	4	4	4	4		ALS4-1032-225	INSERT
*19	4	4	4	4	4	4		AN3C6A	BOLT
*20A	4	4	4	4	4	4		NAS1149CO332R	WASHER
*20B	4	4	4	4	4	4		NAS1515H3L	WASHER

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Revision: K
Date: 18.04.04

Item	Qty -015	Qty -016	Qty -017	Qty -018	Qty -023	Qty -024	Qty -047	Part Number	Description
*30	8	8	8	8				D3492-041	PLUG ASSEMBLY
*31	8	8						D3492-043	PLUG ASSEMBLY
*32			8	8				D3492-045	PLUG ASSEMBLY
***43	2	2	2	2				D3493-1	WASHER
*90	1	1	1	1	1	1	1	D4154-041	WEARPLATE ASSEMBLY
*91A	4	4	4	4	4	4	4	AN3C36A	BOLT ¹
91B	1	1	1	1	1	1	1	AN3C37A	BOLT ²
91C	1	1	1	1			1	AN3C42A	BOLT ³
*92	7	7	7	7	7	7	8	NAS1149CO363R	WASHER
92A			1	1				NAS1149CO363R	WASHER ³
*93	4	4	4	4	4	4	4	MS21043-3	NUT
*94	7	7	7	7	7	7	8	D3873-1	BUSHING
94A			1	1				D3873-1	BUSHING ³
*95	1	1	1	1	1	1	1	D4171-1	BUSHING ⁴
96							4	D4170-3	SPACER
*97	1	1	1	1	1	1	1	AN3C34A	BOLT
*98	2	2	2	2	2	2	2	NAS1149CO363R	WASHER
*99	1	1	1	1	1	1	1	MS21043-3	NUT

* PART OF D4168-041/-042/-043/-044/-051/-052

** TO BE SUPPLIED BY CUSTOMER

*** ONLY INSTALLED IF INSTALLING A DART FLOAT SYSTEM

¹ QTY USED MAY BE LESS ON SKIDTUBES WITH DART CYLINDRICAL OR TRI-BAG FLOATS

² HARDWARE USED ON THE SKIDTUBES INSTALLED WITH DART CYLINDRICAL BAG FLOATS

³ HARDWARE USED ON THE SKIDTUBES INSTALLED WITH DART TRI-BAG FLOATS

⁴ HARDWARE NOT USED ON THE SKIDTUBES INSTALLED WITH DART TRI-BAG FLOATS

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Revision: **K**

Date: 18.04.04